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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,960	08/20/2001	Christopher L. Chua	D/9700511D	9309

7590 11/09/2005

Patent Documentation Center  
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Rochester, NY 14644

EXAMINER
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MENEFEE, JAMES A

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/933,960	Applicant(s) CHUA ET AL.	
	Examiner James A. Menefee	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8-20-01</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

## **DETAILED ACTION**

### ***Response to Amendment***

By preliminary amendment, claims 13-15 are cancelled and claims 16-18 added. The abstract is added. Claims 1-12 and 16-18 are pending.

### ***Priority***

The present application is a divisional of 09/389,160 (filed 9/2/1999), which is a continuation-in-part of 09/364,614 (filed 7/29/1999), which is a continuation-in-part of 08/940,867 (filed 9/30/1997), which claims benefit of 60/037,175 (filed 2/7/1997).

All of the present claims include limitations requiring that light be produced that is polarized in a preferred direction. This limitation does not find support in the parent case 08/940,867. The earliest support for this limitation is found in 09/364,614, therefore the effective filing date of the claims is 7/29/1999. See MPEP 2133.01 ("When applicant files a continuation-in-part whose claims are not supported by the parent application, the effective filing date is the filing date of the child CIP.").

### ***Information Disclosure Statement***

The record indicates that an information disclosure statement was filed on 8/20/2001. However, the actual listing of the references is not found anywhere in the record. Applicant is requested to refile the IDS so that the references may be properly considered.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-12 and 16-18 are rejected under 35 U.S.C. 102(a) as being anticipated by Chua et al. (Applied Physics Letters, vol. 73 no. 12 p. 1631-33, 9/21/1998). Note this reference is “by others” due to the additional author R.M. Donaldson who is not an inventor of this application. See MPEP 2132.01. This reference may be overcome by showing the reference disclosure is the present inventors’ own work under 37 CFR 1.132, or by antedating the reference under 37 CFR 1.131. See MPEP 2132.01.

Regarding claims 1 and 16, Chua discloses a method of making a VCSEL for producing polarized light comprising providing a substrate, forming a plurality of semiconductor layers on the substrate including an active layer and current controlling layer having axes as claimed penetrated by cavities, forming an asymmetric aperture region controlling current as claimed and defined by a conductive region bordered by non-conductive regions so that a first dimension is less than a second dimension to produce light polarized in a preferred direction, the non-conductive regions surrounding the cavities due to the oxidation, and forming electrodes to enable biasing.

Regarding claims 2, 4, and 17, the limitation is equivalent to the misorientation described in p. 1633 col. 2.

Regarding claim 3, cavities are included.

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Regarding claim 5, the limitation is inherently met due to the described dimensions of the device.

Regarding claims 6 and 10, the electrode may be ITO. See Fig. 1.

Regarding claims 7-9, the devices may be in an array. See p. 1633 col. 2.

Regarding claim 11, the misorientation is 4.1 degrees. See p. 1633 col. 2.

Regarding claim 12, the cavities lie along the vertices of a distorted octagon. See p. 1632 col. 1.

Regarding claim 18, the cavity is at least filled with air, a material having a different thermal coefficient of thermal expansion than the substrate; the claim language of filler material does not preclude air when broadly interpreted.

### *Conclusion*

The relevant related cases are cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'James Menefee', with a stylized, cursive script.

James Menefee  
November 3, 2005